# Refine Search

**Search Results -**

| Terms | Documents |
|---|---|
| L3 and (erk1/2 or erk1 or erk2) | 1 |

**Database:** US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

**Search:** L4

Refine Search | Recall Text | Clear | Interrupt

## Search History

**DATE: Friday, March 30, 2007** **Purge Queries** Printable Copy Create Case

| Set Name side by side | Query | Hit Count | Set Name result set |
|---|---|---|---|
| *DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ* | | | |
| L4 | L3 and (erk1/2 or erk1 or erk2) | 1 | L4 |
| L3 | (estrogen or estradiol) and (ligand-binding or ligand binds) and (caveolar or caveolar-like) | 28 | L3 |
| L2 | L1 and estrogen | 3 | L2 |
| L1 | er-x | 16 | L1 |

END OF SEARCH HISTORY

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$
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FILE 'JAPIO' ENTERED AT 23:50:14 ON 30 MAR 2007
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=> s estrogen or er-x
L1      505171 ESTROGEN OR ER-X

=> s (estrogen or estradiol) and (ligand-binding or ligand binds) and (caveolar or caveolar-like
UNMATCHED LEFT PARENTHESIS 'AND (CAVEOLAR'
The number of right parentheses in a query must be equal to the
number of left parentheses.

=> s (estrogen or estradiol) and (ligand-binding or ligand binds) and (caveolar or caveolar-like)
L2            9 (ESTROGEN OR ESTRADIOL) AND (LIGAND-BINDING OR LIGAND BINDS)
                AND (CAVEOLAR OR CAVEOLAR-LIKE)

=> s erk1 or erk 2 or erk1/2
'
L3       43822 ERK1 OR ERK 2 OR ERK1/2

=> s erk1 or erk 2
L4       43822 ERK1 OR ERK 2

=> s erk1 erk 1 or erk 2 or erk2
L5       26016 ERK1 ERK 1 OR ERK 2 OR ERK2

=> s erk1 or erk 1 or erk 2 or erk2
L6       55367 ERK1 OR ERK 1 OR ERK 2 OR ERK2

=> s l6 and estrogen
L7        1492 L6 AND ESTROGEN

=> s l7 and l2
L8           4 L7 AND L2

=> dup rem l8
PROCESSING COMPLETED FOR L8
L9           3 DUP REM L8 (1 DUPLICATE REMOVED)

=> d ibib abs l9 1-3

L9   ANSWER 1 OF 3  WPIDS COPYRIGHT 2007       THE THOMSON CORP on STN
     DUPLICATE 1
ACCESSION NUMBER:     2004-316068 [29]   WPIDS
DOC. NO. CPI:         C2004-119885 [29]
TITLE:                Isolated mammalian cell-surface   ***estrogen***
                      receptor having a non-stereospecific binding affinity for
                      17 alpha-  ***estradiol***   or 17 beta-  ***estradiol***
                      useful to treat neurodegenerative disorder
DERWENT CLASS:        B01
INVENTOR:             TORAN-ALLERAND C D
PATENT ASSIGNEE:      (TORA-I) TORAN-ALLERAND C D; (UYCO-C) UNIV COLUMBIA NEW
                      YORK
```

COUNTRY COUNT: 104

PATENT INFO ABBR.:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN IPC |
|---|---|---|---|---|---|---|
| WO 2004029023 | A2 | 20040408 | (200429)* | EN | 93[10] | |
| AU 2003270714 | A1 | 20040419 | (200462) | EN | | |
| US 20050074777 | A1 | 20050407 | (200525) | EN | | |
| AU 2003270714 | A8 | 20051103 | (200629) | EN | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2004029023 | A2 | WO 2003-US29177 | 20030919 |
| US 20050074777 | A1 Provisional | US 2002-413044P | 20020924 |
| AU 2003270714 | A1 | AU 2003-270714 | 20030919 |
| US 20050074777 | A1 | US 2003-665847 | 20030919 |
| AU 2003270714 | A8 | AU 2003-270714 | 20030919 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO | |
|---|---|---|---|---|
| AU 2003270714 | A1 | Based on | WO 2004029023 | A |
| AU 2003270714 | A8 | Based on | WO 2004029023 | A |

PRIORITY APPLN. INFO: US 2002-413044P 20020924
US 2003-665847 20030919

AN 2004-316068 [29] WPIDS

AB WO 2004029023 A2 UPAB: 20050906

NOVELTY - Isolated mammalian cell-surface ***estrogen*** receptor (I) comprises a non-stereospecific binding affinity for 17alpha ***estradiol*** (a) and 17 beta- ***estradiol*** (b), at least one epitope in common with the ***ligand*** ***binding*** domain of ER-alpha ( ***estrogen*** recelptor) and increased presence at ***caveolar*** or ***caveolar*** - ***like*** microdomains of cells on which the receptor is present.

DETAILED DESCRIPTION - INDEPENDENT CLAIM is also included for

(1) composition comprising lipid membrane, other than that of an intact cell, comprising (I);

(2) method for determining whether an agent specifically binds to the receptor of (I) comprises contacting the receptor with the agent under suitable conditions, detecting the presence of any complex formed between the receptor and the agent; and determining whether complex is the result of specific binding between the agent and receptor;

(3) method for determining the affinity with which an agent binds to the receptor of (I) relative to that with which a known ***ligand*** ***binds*** the receptor, comprising concurrently contacting the receptor with both the agent and a ligand that binds the receptor with a known affinity under conditions which permit the formation of complex between the receptor and the ligand, determining the amount of complex formed between the agent and the receptor and comparing the amount of complex between the agent and the receptor with the amount of complex formed between the agent and the receptor in the absence of the ligand (where a ratio of agent in the complex (between the agent and the receptor) to that complex (between agent and the receptor) greater than 2 indicates that the agent binds to the receptor with less affinity than does the ligand, a ratio of less than 2 indicates that the agent binds to the receptor with greater affinity than does the ligand and a ratio of 2 indicates that the agent and ligand bind to the receptor with the same affinity);

(4) method for determining whether an agent is an agonist of (I) comprises contacting the receptor with the agent (under conditions which permit the formation of a complex between the receptor and a known agonist of the receptor and the generation of a detectable signal upon formation of a complex between the receptor and the known agonist) and determining whether a detectable signal is generated and the generation of such signal indicating that the agent is an agonist of the (I);

(5) method for determining whether an agent is an antagonist of the receptor (I) comprises contacting the receptor with the agent, in the

presence of a known agonist (under conditions which permit the formation of a complex between the receptor and the agonist and the generation of a detectable signal upon formation of a complex between the receptor and the agonist) and comparing the signal, (generated if any) with the signal generated in the absence of the agent with the generation of a signal in the agent's absence greater than that generated in the agent's presence indicates that the agent is an antagonist;

(6) method for activating the MAP kinase pathway of a cell having on its surface the receptor (I) comprising contacting the cell with a concentration of 17alpha- ***estradiol*** of at least 0.1 pM and less than 100 pM (under conditions permitting the 17a- ***estradiol*** to bind to the receptor); and

(7) An article of manufacture comprising a packaging material having 17alpha- ***estradiol*** sufficient, to raise the subject's plasma 17alpha- ***estradiol*** concentration at least 0.1 pM and less than 100 pM and a label indicating a use of the 17a- ***estradiol*** for treating a disorder of neurodegenerative disorder, a neurodevelopmental disorder, a sexually dimorphic childhood disorder of cognition, a uterine disorder or a pulmonary disorder.

ACTIVITY - Cerebroprotective; Vasotropic; Neuroprotective; Nootropic; Neuroleptic; Endocrine-Gen.; Tranquilizer; Respiratory-Gen.; Gynecological.

MECHANISM OF ACTION - MAP kinase pathway activator. Test details are described but the results are not given.

USE - (a) is useful to treat neurodegenerative disorder (particularly stroke, Alzheimer's disease, Parkinson's disease in humans), neurodevelopmental disorder (particularly schizophrenia, Turner's syndrome or Down's syndrome), a sexually dimorphic childhood disorder of cognition (particularly learning disability, infantile autism, delayed speech acquisition, attention, deficit disorder), uterine disorder (particularly Turner's syndrome), pulmonary disorder (particularly immature lung development in a preterm infant (claimed).

L9 ANSWER 2 OF 3 SCISEARCH COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2005:34558 SCISEARCH <<LOGINID::20070330>>
THE GENUINE ARTICLE: 880WM
TITLE: ***Estrogen*** and the brain: beyond ER-alpha and ER-beta
AUTHOR: Toran-Allerand C D (Reprint)
CORPORATE SOURCE: Columbia Univ Coll Phys & Surg, Dept Anat & Cell Biol, Ctr Neurobiol & Behav & Reprod Sci, 630 W 168th St, New York, NY 10032 USA (Reprint); Columbia Univ Coll Phys & Surg, Dept Anat & Cell Biol, Ctr Neurobiol & Behav & Reprod Sci, New York, NY 10032 USA; Columbia Univ Coll Phys & Surg, Dept Neurol, Ctr Neurobiol & Behav & Reprod Sci, New York, NY 10032 USA
cdt2@columbia.edu
COUNTRY OF AUTHOR: USA
SOURCE: EXPERIMENTAL GERONTOLOGY, (NOV-DEC 2004) Vol. 39, No. 11-12, pp. 1579-1586.
ISSN: 0531-5565.
PUBLISHER: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 59
ENTRY DATE: Entered STN: 20 Jan 2005
Last Updated on STN: 20 Jan 2005

*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS*

AB 17beta- ***Estradiol*** is a greatly under-appreciated neural growth and trophic factor for the mammalian brain of all ages. Like other growth factors, such as the neurotrophins, 17beta- ***estradiol*** influences neurogenesis, neuronal differentiation, and neuronal survival of its targets throughout life. ***Estrogen*** elicits developmentally regulated differentiative effects, which are not normally seen in the adult brain. However, re-expression of this developmental response occurs in the adult, following loss of trophic support, whether induced by ***estrogen*** deprivation or brain injury. In addition to the classical intranuclear ***estrogen*** receptors (ER) ER-alpha and ER-beta, we have recently identified a novel, plasma membrane-associated, putative ER that is neither ER-alpha nor ER-beta, which we have designated

'ER-X'. ER-X is a developmentally regulated ***estrogen*** -binding protein, present in wild-type, ER-alpha gene-disrupted (alphaERKO) and ER-alpha null mice, which is re-expressed following ischemic brain injury. The preferred ligand of ER-X is 17alpha- ***estradiol*** . Although ER-X shares some homology with the C-terminus of ER-a, it is not an alternative splicing variant and may be a new gene. While ER-X appears to mediate 17alpha- and 17beta- ***estradiol*** activation of the MAPK cascade. ER-a. in contrast, is inhibitory to its activation.

***Estradiol*** activation of MAPK/ERK may be particularly relevant for neuroprotection during aging and Alzheimer's disease. 

L9 ANSWER 3 OF 3 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2001:520526 BIOSIS <<LOGINID::20070330>>
DOCUMENT NUMBER: PREV200100520526
TITLE: ER-X: A novel, developmentally regulated ***estrogen*** receptor associated with the plasma membrane.
AUTHOR(S): Guan, X. [Reprint author]; Horvath, T.; Diano, S.; MacLusky, N. [Reprint author]; Singh, M. [Reprint author]; Toran-Allerand, D. [Reprint author]
CORPORATE SOURCE: Ctr. Reprod. Sci., Columbia Univ., New York, NY, USA
SOURCE: Society for Neuroscience Abstracts, (2001) Vol. 27, No. 1, pp. 1081. print.
Meeting Info.: 31st Annual Meeting of the Society for Neuroscience. San Diego, California, USA. November 10-15, 2001.
ISSN: 0190-5295.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 7 Nov 2001
Last Updated on STN: 23 Feb 2002

AB ***Estrogen*** is an important neural growth and trophic factor with influences on neuronal differentiation, survival and plasticity. We showed earlier in postnatal mouse neocortex that 17alpha- and 17beta- ***estradiol*** elicit rapid and sustained phosphorylation and activation of the MAP kinase cascade, including the isoforms ***ERK1*** /2, which translocate to the nucleus. Here we show for the first time that ***estrogen*** activation of the MAP kinase cascade in the developing brain is mediated by a novel and unique, membrane-associated, ***estrogen*** receptor (ER) that is neither ER-alpha nor ER-beta, which we have designated "ER-X". "ER-X" is developmentally regulated in both the brain and the uterus; binds ***estrogen*** with high affinity; and exhibits homology with the ER-alpha ***ligand*** - ***binding*** domain. We also show that ***caveolar*** - ***like*** , neocortical plasma membrane microdomains of wild-type and ER-alpha-deficient (ERKO) postnatal mice are enriched in "ER-X" in association with a multimeric ***caveolar*** complex comprising, heat shock protein (hsp) 90, pp60src, members of the MAP kinase cascade (Ras, B-Raf, MEK1/2, ***ERK1*** /2 and Rsk), and flotillin, an integral, neuron-specific, ***caveolar*** protein. ***Caveolar*** association positions ER-X uniquely to mediate rapid, non-genomic effects of ***estrogen*** and activate a broad array of ERE and non-ERE-containing genes that may underlie the differentiative and neuroprotective actions of ***estrogen*** in the developing brain.